ive for policy makers to include OCV as part of a comprehensive package to enhance existing water and sanitation initiatives.

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Perceptions of caregivers of sick children toward a possible malaria vaccine in Kenya

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Background: Several malaria vaccines are currently in clinical trials and are expected to provide an improved strategy for malaria control. Prior to introduction of a new vaccine, policymakers must consider the socio-cultural environment of the region to ensure widespread community approval. Our study investigated the acceptability and attitudes of child caregivers toward a malaria vaccine, and analyzed factors that influence these.

Methods & Materials: Interviews from a standard questionnaire were conducted with 2,003 caregivers at 695 randomly selected health facilities across Kenya during the Kenya Service Provision Assessment Survey 2010. Multinomial regression of quantitative data was conducted using STATA to analyze the determinants of caregivers accepting malaria vaccination of their child.

Results: Mothers represented 90% of caregivers interviewed as they brought their child to the health facility, and 77% of caregivers were 20-34 years old. Overall, 88% of respondents indicated that they would accept a malaria vaccine, both for a child in their community and their own child. Approval for a vaccine was highest in malaria-endemic Nyanza province at 98.9%, and lowest in the seasonal transmission area of North Eastern Kenya at 23%. Although 94% of respondents who had attended at least some schooling reported acceptance of the vaccine, only 56% of those who had never attended school would accept the vaccine. The likelihood of accepting one's own child to be immunized was significantly associated with region, satisfaction with health care services in the facility attended, age of the caregiver, and education. Further regression analysis of the intersection of significant variables with region did not correlate significantly.

Conclusion: Our results indicate a need for targeted messages and education on the malaria vaccine, particularly for residents of regions where acceptance is low, older caregivers, and those with low literacy and school-attendance levels. This study provides critical evidence to inform policy for a new malaria vaccine that will support its timely and comprehensive uptake in Kenya.

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Best practices in nucleic acid removal from viral vaccine manufacture

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Background: The production of viral vaccines at commercial scale requires large quantities of viruses as an antigenic source. There are different production platforms suitable for viral replication -mammalian, avian and insect cells. Host cell residuals in the final product - nucleic acid in particular - create a significant concern due to a potential transfer and integration into the living cell's genetic material, potentially leading to various harmful effects including cancer. Health authorities and regulatory bodies continue to increase safety standards for biopharmaceutical products, providing stringent guidelines on removal of residual nucleic acid from the vaccine manufacturing processes. Several physicochemical methods exist to reduce nucleic acid during the manufacturing process, each with its unique strengths and weaknesses. One of the methods to reduce nucleic acid contaminants is via enzymatic degradation with endonucleases. It acts on nucleic acid by specifically catalyzing the hydrolysis of internal phosphodiester bonds in DNA and RNA chains breaking them into smaller nucleotides. Smaller nucleotides/nucleic acid fragments, so also the endonucleases, can be easily removed from the process during subsequent downstream processing using ultrafiltration/diafiltration and chromatography. This presentation highlights recent advances in nucleic acid removal from vaccine processes.

Methods & Materials: Benzonase treatment, Tangential flow filtration and chromatography

Results: 3 log reduction of DNA removal by TFF coupled with Benzonase treatment

Conclusion: Complete removal of host cell DNA is feasible by using combinations of nuclease treatment, tangential flow filtration and chromatography.

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